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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,092	02/04/2004	Yury Prilutsky	FN101-B-CIP	3292
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JACKSON & CO., LLP 6114 LA SALLE AVENUE #507 OAKLAND, CA 94611-2802			EXAMINER QUIETT, CARRAMAH J	
			ART UNIT 2622	PAPER NUMBER
			NOTIFICATION DATE 09/13/2007	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	Application No. 10/773,092	Applicant(s) PRILUTSKY ET AL.	
	Examiner Carramah J. Quiett	Art Unit 2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 04 February 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-91 is/are pending in the application.
- 4a) Of the above claim(s) 33-56 and 86-88 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-32, 57-85 and 89-91 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 6) <input type="checkbox"/> Other: _____  |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :09/23/04; 09/27/04; 01/14/05; 07/21/05; 11/17/05; 06/26/05.

## DETAILED ACTION

### *Election/Restrictions*

1. Claims 33-56 and 86-88 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 06/28/2007.

### *Information Disclosure Statement*

2. The information disclosure statement (IDS), filed on 09/23/2004, 09/27/2004, 01/14/2005, 07/21/2005, 11/17/2005, and 06/26/2005, has been placed in the application file, and the information referred to therein has been considered as to the merits.

### *Specification*

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### *Claim Rejections - 35 USC § 102*

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. **Claims 1-12, 15-27, 30-32, 57-77, 80-85, and 89-91** are rejected under 35 U.S.C. 102(b) as being anticipated by Benati et al. (U.S. Pat. #5748764).

For **claim 1**, Benati discloses a digital apparatus comprising a red-eye filter for modifying an area within a digitized image indicative of a red-eye phenomenon based on an analysis of a subsample representation of selected regions of said digitized image and on an analysis of meta-data (bit map) information (figs. 2-4; col. 3, lines 46-62; col. 4, lines 17-45).

For **claim 2**, Benati discloses the apparatus of claim 1, wherein the analysis is performed at least in part for determining said area (col. 3, line 63 – col. 4, line 16).

For **claim 3**, Benati discloses the apparatus of claim 1, wherein the analysis is performed at least in part for determining said modifying (col. 3, line 63 – col. 4, line 16).

For **claim 4**, Benati discloses the apparatus of claim 1, wherein said selected regions of said digitized image comprise the entire image (col. 3, lines 24-45).

For **claim 5**, Benati discloses the apparatus of claim 1, wherein said selected regions of said digitized image comprise multi resolution encoding of said image (col. 7, lines 8-35). Also, see fig. 4.

For **claim 6**, Benati discloses the apparatus of claim 1, wherein at least one region of the entire image is not included among said selected regions of said image (col. 3, line 63 – col. 4, line 16; col. 4, line 51 – col. 5, line 21).

For **claim 7**, Benati discloses the apparatus of claim 1, wherein said analysis is performed in part on a full resolution image and in part on a subsample resolution of said digital image (col. 7, lines 8-35). Also, see fig. 4.

For **claim 8**, Benati discloses the apparatus of claim 1, further comprising a module for changing the degree of said subsampling (col. 4, line 51 – col. 5, line 21).

For **claim 9**, Benati discloses the apparatus of claim 8, wherein said changing the degree of said subsampling is determined empirically (col. 4, lines 6-16).

For **claim 10**, Benati discloses the apparatus of claim 8, wherein said changing the degree of said subsampling is determined based on a size of said image (col. 7, lines 8-35).

For **claim 11**, Benati discloses the apparatus of claim 8, wherein said changing the degree of said subsampling is determined based on a size of selected regions of the image (col. 7, lines 8-35).

For **claim 12**, Benati discloses the apparatus of claim 8, wherein said changing the degree of said subsampling is determined based on data obtained from the camera relating to the settings of the camera at the time of image capture (figs. 2-4; col. 3, lines 24-62; col. 4, lines 17-45).

For **claim 15**, Benati discloses the apparatus of claim 8, wherein said changing the degree of said subsampling is determined based on digitized image metadata (bit map) information (col. 4, lines 17-45).

For **claim 16**, Benati discloses the apparatus of claim 8, wherein said modifying the area is performed including the full resolution of said digital image (col. 7, lines 8-35).

For **claim 17**, Benati discloses the apparatus of claim 8, wherein said red-eye filter comprises of a plurality of sub filters (fig. 2, col. 3, lines 46-62).

For **claim 18**, Benati discloses the apparatus of claim 17, wherein said subsampling for said sub filters operating on selected regions of said image is determined by one or more of the image size (fig. 2, col. 3, lines 46-62; col. 7, lines 8-35), suspected as red eye region size (col. 3, line 63 – col. 4, line 16; col. 4, line 51 – col. 5, line 21), filter computation complexity (col. 4, line 51 – col. 5, line 36; col. 5, line 38 – col. 6, line 15), empirical success rate of said sub filter

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(col. 4, lines 6-16), empirical false detection rate of said sub filter (col. 3, line 63 – col. 4, line 16; col. 4, line 51 – col. 5, line 21), falsing probability of said sub filter (col. 3, line 63 – col. 4, line 16; col. 4, line 51 – col. 5, line 21), relations between said suspected regions as red eye, results of previous analysis of other said sub filters (col. 5, line 38 – col. 6, line 15).

For **claim 19**, Benati discloses the apparatus of claim 1, further comprising memory for saving said digitized image after applying said filter for modifying pixels as a modified image (col. 3, lines 24-35).

For **claim 20**, Benati discloses the apparatus of claim 1, further comprising memory for saving said subsample representation of said image (col. 3, lines 24-35).

For **claim 21**, Benati discloses the apparatus of claim 1, wherein said subsample representation of selected regions of said image is determined in hardware (col. 3, lines 24-46).

**Claims 22, 23, 24, 25, and 26** are method claims corresponding to method claims 5, 7, 10, and 11 respectively. Therefore, claims 22, 23, 24, 25, and 26 are analyzed and rejected as previously discussed with respect to claims 7, 8, 9, 10, and 11, respectively.

For **claim 27**, Benati discloses the apparatus of claim 23, wherein said changing the degree of said subsampling is determined based on a complexity of calculation for said filter (col. 4, line 51 – col. 5, line 36; col. 5, line 38 – col. 6, line 15).

**Claims 30 –32** are apparatus claims corresponding to apparatus claims 16-18, respectively. Therefore, claims 30-32 are analyzed and rejected as previously discussed with respect to claims 16-18, respectively.

For **claim 57**, Benati teaches a method of filtering a red eye phenomenon from a digitized image comprising a multiplicity of pixels indicative of color, the method comprising determining

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whether one or more regions within a subsample representation of said digitized image are suspected as including red eye artifact, including analysis of meta-data (bit map) information (figs. 2-4; col. 3, lines 46-62; col. 4, lines 17-45).

For **claim 58**, Benati teaches the method of claim, 57, further comprising varying a degree of the subsample representation for each region of said one or more regions based on said image (col. 3, lines 24-45).

For **claim 59**, Benati teaches the method of claim 57, further comprising generating the subsample representation based on said image (col. 4, line 51 – col. 5, line 21).

For **claim 60**, Benati teaches the method of claim 57, further comprising generating the subsample presentation utilizing a hardware-implemented subsampling engine (col. 3, lines 46-62).

For **claim 61**, Benati teaches the method of claim 57, further comprising testing one or more regions within said subsample representation determined as including red eye artifact for determining any false redeye groupings (col. 3, line 63 – col. 4, line 16; col. 4, line 51 – col. 5, line 21).

For **claim 62**, Benati teaches the method of claim 57, further comprising

(c) associating said one or more regions within said subsample presentation of said image with one or more corresponding regions within said image (col. 4, line 51 – col. 5, line 21); and

(d) modifying said one or more corresponding regions within said image (col. 7, lines 8-35).



For **claim 63**, Benati teaches the method of claim 57, wherein the determining comprises analyzing meta-data information including image acquisition device-specific information (col. 4, lines 17-45).

For **claim 64**, Benati teaches the method of claim 57, further comprising analyzing the subsample representation of selected regions of said digitized image, and modifying an area determined to include red eye artifact (col. 3, lines 24-45).

**Claims 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76 and 77** are method claims corresponding to apparatus claims 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 19, 20, and 21, respectively. Therefore, claims 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76 and 77 are analyzed and rejected as previously discussed with respect to claims 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 19, 20, and 21, respectively.

**Claims 80-82** are method claims corresponding to apparatus claims 16-18, respectively. Therefore, claims 80-82 are analyzed and rejected as previously discussed with respect to claims 16-18, respectively.

For **claim 83**, Benati teaches the apparatus of claim 1, wherein the metadata information comprises image acquisition device-specific metadata (col. 4, lines 17-45).

For **claim 84**, Benati teaches the apparatus of claim 83, wherein the metadata information comprises digitized image metadata (col. 4, lines 17-45).

**Claim 85** is a method claims corresponding to method claim 84. Therefore, claim 85 is analyzed and rejected as previously discussed with respect to claim 84.

For **claim 89**, Benati teaches the method of claim 57, wherein the analyzing metadata information comprises analyzing digitized image meta-data (col. 4, lines 17-45).

**Claims 90-91** are method claims each corresponding to method claim 89. Therefore, claims 90-91 are analyzed and rejected as previously discussed with respect to claim 89.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. **Claims 13-14** are rejected under 35 U.S.C. 103(a) as being unpatentable over Jarman Benati et al. (U.S. Pat. #5748764) in view of DeLuca (U.S. Pat. 6407777).

For **claim 13**, Benati discloses the apparatus of claim 12. However, Benati does not expressly disclose wherein the data obtained from the camera includes an aperture setting or focus of the camera, or both.

In a similar field of endeavor, DeLuca teaches wherein the data obtained from the camera includes an aperture setting or focus of the camera, or both (col. 4, line 57 – col. 5, line 4). In light of the teaching of DeLuca, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Benati with data from the camera including an aperture setting or focus of the camera, or both. This modification will provide reduction of the red-eye phenomenon in images captured with different colors, various shapes and at various distances thereby producing an enhanced image (DeLuca, figs. 2-7; col. 2, line 61 – col. 3, line 45).

For **claim 14**, Benati discloses the apparatus of claim 12. However, Benati does not expressly disclose wherein the data obtained from the camera includes the distance of the subject from the camera.

In a similar field of endeavor, DeLuca teaches wherein the data obtained from the camera includes the distance of the subject from the camera (fig. 1; col. 2, lines 21-60; col. 4, line 57 – col. 5, line 4). In light of the teaching of DeLuca, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Benati with data from the camera including the distance of the subject from the camera. This modification will provide reduction of the red-eye phenomenon in images captured with different colors, various shapes and at various distances thereby producing an enhanced image (DeLuca, figs. 2-7; col. 2, line 61 – col. 3, line 45).

9. **Claims 28 and 78** are rejected under 35 U.S.C. 103(a) as being unpatentable over Benati et al. (U.S. Pat. #5748764) in view of Nicponski (U.S. Pat. 5974189).

For **claim 28**, Benati teaches the method of claim 1 further comprising determining said subsample representation (figs. 2-4; col. 3, lines 46-62; col. 4, lines 17-45). However, Benati does not expressly teach determining said subsample representation using spline interpolation.

In a similar field of endeavor, Nicponski teaches determining said subsample representation using spline interpolation (col. 7, lines 27-31). In light of the teaching of Nicponski, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method using spline interpolation in order to enable improved enhancement effects on the image such as shadows, glows, etc. (Nicponski, Abstract).

**Claim 78** is method claims corresponding to apparatus claim 28. Therefore, claim 78 is analyzed and rejected as previously discussed with respect to claim 28.

10. **Claims 29 and 79** are rejected under 35 U.S.C. 103(a) as being unpatentable over Benati et al. (U.S. Pat. #5748764) in view of Naqvi et al. (U.S. Pat. #5847714).

For **claim 29**, Benati teaches the method of claim 1, further comprising determining said subsample representation (figs. 2-4; col. 3, lines 46-62; col. 4, lines 17-45). However, Benati does not expressly teach determining said subsample representation using bi-cubic interpolation.

In a similar field of endeavor, Naqvi teaches determining said subsample representation using bi-cubic interpolation (col. 5, lines 4-6). In light of the teaching of Naqvi, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method using bi-cubic interpolation in order to enable improved magnified destination image (Naqvi, col. 2, lines 3-5).

**Claim 79** is method claims corresponding to apparatus claim 29. Therefore, claim 79 is analyzed and rejected as previously discussed with respect to claim 29.

### *Conclusion*

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Jarman (Pub. No. US 2004/0046878)	A method of processing a digital image to detect and remove red-eye features.
DeLuca (US 7042505)	A digital camera with a red-eye filter.
Matama (US 7042501)	An image processing apparatus capable of performing red eye correction.
Aoyama (US 6724941)	An image processing method for a digital camera with spline interpolation.
Sobel et al. (US 6300935)	Image interpolation circuit and method for fast bi-cubic interpolation of image information.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carramah J. Quiett whose telephone number is (571) 272-7316. The examiner can normally be reached on 8:00-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, NgocYen Vu can be reached on (571) 272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CJQ

August 29, 2007

A handwritten signature in black ink, appearing to read 'Ngoc-Yen Vu', with a long horizontal line extending to the right.

NGOC-YEN VU  
SUPERVISORY PATENT EXAMINER